

**WHAT IS CLAIMED IS:**

1. A method of optoelectrical conversion, comprising:  
  
providing a first electrical signal to an electrical directional element comprising a switch for switching between a connection of the transmitter driver with the optoelectric converter and of the receiver with the optoelectric converter,  
  
switching the electrical directional element for directing the first electrical signal to the optoelectric converter,  
  
the optoelectric converter converting the first electrical signal into an optical signal and providing the optical signal to a DUT,  
  
the optoelectric converter receiving and converting a reflected optical signal reflected by the DUT back into a second electrical signal, and  
  
switching the electrical directional element for directing the second electrical signal to the receiver.
2. The method of claim 1, further comprising:  
  
the optoelectric converter converting the first electrical signal into an optical signal by emitting light caused by an electrical excitation of the optoelectric converter by the first electrical signal.
3. The method of claim 1, further comprising:  
  
the optoelectric converter converting the reflected optical signal back into a second electrical signal by generating an electrical signal caused by an optical excitation of the optoelectric converter by the optical signal.
4. The method of claim 1, further comprising:

introducing a time delay between providing the optical signal to the DUT and receiving the reflected optical signal from the DUT.

5. A method of performing an OTDR measurement by using the method of claim 1.
- 5 6. A software program or product, preferably stored on a data carrier, for executing the method of claim 1, when run on a data processing system such as a computer.
7. An apparatus for optoelectrical conversion, comprising:
  - 10 a transmitter driver for providing a first electrical signal to an electrical directional element connected to the transmitter driver,
  - the electrical directional element for directing the first electrical signal to an optoelectric converter connected to the electrical directional element,
  - the optoelectric converter
  - 15 for converting the first electrical signal into an optical signal and for providing the optical signal to a DUT connected to the optoelectric converter, and
  - for receiving and converting a reflected optical signal reflected by the DUT back into a second electrical signal, and
  - 20 a receiver for receiving the second electrical signal from the electrical directional element connected to the receiver,
  - wherein the electrical directional element comprises a switch to switch between a connection of the transmitter driver with the optoelectric converter and of the receiver with the optoelectric converter.

8. The apparatus of claim 7,  
wherein the transmitter driver comprises a laser driver.
9. The apparatus of claim 7,  
wherein the electrical directional element comprises an electrical  
5 directional coupling device.
10. The apparatus of claim 7,  
wherein the optoelectric converter comprises a laser diode and/or a  
light emitting diode.
11. The apparatus of claim 7, wherein the transmitter driver and the  
10 receiver are part of an evaluation unit for a OTDR measurement  
setup.
12. The apparatus of claim 12, further comprising:  
a time delay element connected to the optoelectric converter and the  
DUT for introducing a time delay between the provision of the optical  
15 signal to the DUT and the receipt of the reflected optical signal from  
the DUT by the optoelectric converter.
13. An OTDR measurement setup comprising an apparatus of claim 7.